

# RAMBO

RADIOACTIVITY MONITOR FOR THE SAFE INSPECTION OF VEHICLES AND PEOPLE



Monitoring vehicles in the entrance and exit areas of

- Recycling plants
- Waste incinerators
- Border crossings
- Nuclear facilities
- Military sites

## Benefits

- Large-scale plastic scintillation detectors
- Automatic adjustment to background effect
- Customisable limit values
- Two energy windows per detector
- Additional shielding possible
- Control of external alarm units (visual and audible)
- Customer-specific designs feasible

## Key figures

3 different Models

7.5 to 25 litre

Detector volumes

1,500-5,000 cm<sup>2</sup>

Detector areas

## Product description

Large-scale and highly-sensitive plastic scintillation  $\gamma$  detectors are required in order to examine the cargo of cars, trucks and railway carriages for the presence of radioactive material.

As part of a dynamic measurement, vehicles are safely checked for  $\gamma$ -ray emitting radioactive materials at up to speeds of 10 km/hour. Plastic scintillation detectors offer optimal cost-effectiveness, taking into account  $\gamma$ -radiation sensitivity and detector size. Two detectors are used, each with a detector area of up to 5,000 cm<sup>2</sup>. The design of the detector system ensures that the presence of a  $\gamma$ -radiation source is safely detected in a loaded truck, container or railway carriage. The detection level depends on the density of the cargo, the energy of the  $\gamma$ -radiation emitter and the location of the source of radiation within the cargo.

## Technical data

**Detector type:** two large-scale plastic scintillation detectors, up to 5,000 cm<sup>2</sup>, with integrated photomultiplier; larger detectors also possible

**Detector configuration:** two detector columns as the base system; more columns can be connected

**Detector column dimensions:** car/truck 1,300 x 450 (600) x 150 mm<sup>3</sup> energy range:  $\gamma$ -radiation from approx. 30 keV

**Background effect:** approx. 2,000 lps at 100 nSv/h (based on 1,000 x 350 x 50 mm detector, without shielding) or 2,800 lps (at 1,000 x 500 x 50 mm)

**Temperature:** application range from - 20° C to + 50° C

**Electronics:** in a separate housing, high-performance microprocessor electronics

**Alarm:** audible and visual

## Characteristics

- Two large-scale plastic scintillation detectors, each 3,500 cm<sup>2</sup> and with an integrated photomultiplier – 1,500 cm<sup>2</sup> or 5,000 cm<sup>2</sup> options also possible
- Stainless steel housing with aluminium front panel
- Optional lead shielding of the detectors can be integrated to reduce the background effect and for collimation
- Microprocessor electronics
- Main menu secured by an access code
- Measurement cycles of 0.5 s, 1 s and 2 s, triggered by light barriers
- Incrementally-adjustable alarm thresholds (sigma function)
- Alarm readings displayed in lps
- Adjustable safety margin to prevent false alarms
- Alarm thresholds automatically adapt to changing background effects
- Storage and printout of alarm values

